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AUTHOR Avery, Paul J.; And Others
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ABSTRACT

Fishing Industry Specialization, or FINS, is a 2-year alternative education program designed in 1979 by the LaConner (Washington) School District to encourage high school completion by students wanting to enter the fishing industry. With encouragement from the Swinomish Indian Tribe and help from an active citizens advisory board, school officials have redesigned a high school program around the technological skills necessary for survival at sea and in the fishing industry. FINS students follow a 5-phase sequence of academic, vocational, and at-sea coursework resulting in a competency certification. Academic and vocational courses, which use special curriculum units to teach standard curriculum topics in the context of the fishing industry, include introduction to fishing, navigation, marine safety and survival, marine engines and repair, marine biology, money management, boat building, drafting, and report writing. At-sea coursework covers safety, deck seamanship, navigation, and commercial fishing gear and techniques. FINS provides students with a realistic incentive to complete school and to master and apply academic skills in practical work experience. While many FINS graduates have obtained entry level jobs in marine-related areas, others have continued their training at the college level. This successful educational model can be applied in conjunction with any major community industry. (SB)

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FINS

A Guide to the LaConner School District's Program in Fishing Industry Specialization

1982

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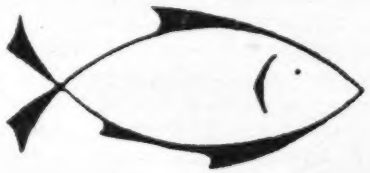

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FORWARD

The challenge of joining the fishing fleet has enticed many a LaConner youth away from the classroom and out to sea in pursuit of the salmon or herring runs.

The prospects of big money and an independent lifestyle — requiring a minimum amount of education — has resulted in school dropouts, irregular attendance, low achievement and recurring resistance to schooling.

The idea of FINS is to cause these same students to see high school completion as a realistic and compelling objective. This is being accomplished by re-designing of their educational program around the technological skills, which will increase their chances for survival at sea and in a highly competitive and increasingly sophisticated industry.

FINS represents a pulling together of local industries, community resources, and the separate disciplines within the school, to make productive citizens of our undisciplined youth. FINS demonstrates educational energy in its purest sense . . . Mathematics is taught as a tool to be learned in order to plot a course accurately, handle navigation equipment, order supplies for a fortnight at sea, complete tax reports and keep profit and loss statements . . . Science teaches how and where to fish, as well as improving methods of harvesting the sea and renewing its resources . . . Learning the vocabulary of the sea becomes the key concept for identification and common communication . . . writing legibly becomes essential for the sending and receiving of vital messages . . . and the overall result is producing behavioral changes in these students far more profound than the mere sum of the individual lessons.

FINS teachers are a special, hand-picked breed. Highly qualified specialists in their own fields, they share a passion for teaching, a curiosity and fascination for the sea, a blend of toughness-tenderness toward the reluctant learner, and a determination to make FINS work.

We strongly believe that FINS represents a relevant alternative for future educational programming. FINS provides students with a realistic incentive to complete school, to master academic skills and to apply them immediately to practical world-of-work endeavors.

The purposes of this handbook are to: a) provide a general understanding of the FINS program at LaConnor b) provide information to enable a school district to begin its own FINS program or to adapt the FINS model to a district's local industry.

If we can be of further assistance, please call on us.

Paul J. Avery, Superintendent
LaConner Public Schools
Box D
LaConner WA 98257

How FINS Began

For youths growing up in a coastal commercial fishing community, the challenge of fishing and the value of a high school education have posed a dramatic collision of interests.

In the small fishing community of LaConner, Washington; fishing, its independent life style, and the prospect of earning big money in a summer at sea, have traditionally lured youths out of the classroom and into the fishing fleet.

That attraction has led to school dropouts, irregular attendance, low achievement and disenchantment with school.

Today, however, the clashing interests of fishing and school have been significantly reduced through the start of an imaginative Fishing Industry Specialization (FINS) program, developed by the LaConner School District.

Recognizing a problem, district officials sought community recommendations for preparing students for careers in the community.

Citizens Advisory Board Formed

At the heart of the FINS program is the Citizens Advisory Board. Representatives on the advisory board are from the *United States Coast Guard;* the *Gillnetters' Association;* the *Moore-Clark Fish Processing Co.*, a local company; the *Northwest Regional Educational Laboratory,* based in Portland; the *Dunlap Towing Co.*, a local company; the *Pacific Science Center* in Seattle and *North Sound Sea Grant*.

Their function is to inform and advise on future career opportunities, provide technical expertise on specific competencies employers seek in prospective employees, review and evaluate FINS programs, provide students with job experiences, recommend individuals and/or enterprises as sources of assistance and help build community understanding and support of the FINS program.

See Appendix **page 17** for advisory board diagram.

In establishing the FINS program, one of their initial projects was to survey local businesses and industries to determine present and future job skill needs.

Employers agreed that sports and commercial fishing and related marine subsidiaries were the growth industries along the Swinomish Channel in LaConner. As such, those industries are expected to be the leading employers in the community for some time.

However, because of rapid technological changes in those industries, and an emphasis on workers' skills and experience, employers expressed little confidence in local students as a potential employment force.

A survey of 25 school dropouts, working in seasonal employment in fisheries, was conducted by the citizens committee. That survey revealed that although the former students identified themselves as fishermen, they had difficulty understanding government forms, fishing regulations, tide tables and simple bookkeeping procedures.

Most were unable to achieve any measure of economic stability.

Common water safety skills were also found to be deficient among those surveyed. Startlingly, none of the group surveyed felt confident that they could swim to safety from a distance of 50 yards off shore.

Engine and boat maintenance skills were also found to be lacking, as were navigational and fundamental fishing skills.

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Swinomish Tribe Concerned with Achievement

In assessing community education problems, the Swinomish Indian Tribe also played an important role.

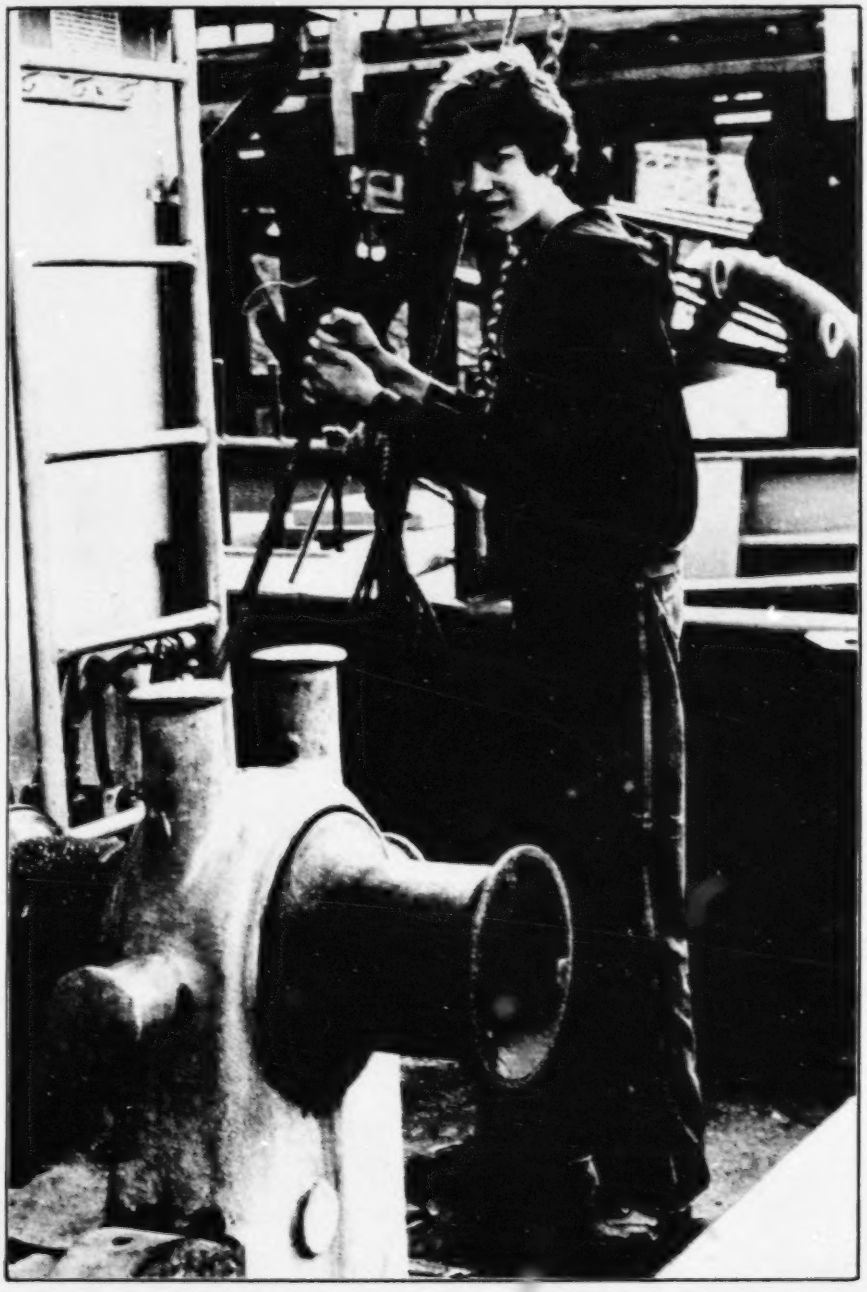
Indian children from the Swinomish reservation account for nearly one-third of the LaConner public schools' enrollment. Although the dropout rate is high among all children of commercial fishing families, it is especially high among Swinomish boys.

The Swinomish Tribe challenged the LaConner school board to halt that trend.

In a letter to the board, tribal members said, *"The economic development and expansion plans of the Swinomish will require an increasing number of energetic, disciplined, well-trained young men and women in the years ahead."*

"We are deeply concerned with the high dropout rate and low achievement patterns of our students in the public schools."

"Please help Swinomish youths to become technologically and academically prepared to carry out our tribal goals.



A good deckhand is required to perform a number of necessary tasks . . . including pumping the bilge.

Educational System Redesigned to Include FINS

Following three months of study, the citizens committee advised that the district consider redesigning the educational system to include a program which would train students for careers in fisheries.

FINS is the direct result of the board's recommendations.

Now fully functioning in the LaConner School District, FINS is a two-year sequence of academic and vocational course work, interspersed with *"at-sea"* experience for students who will someday earn a living at sea.

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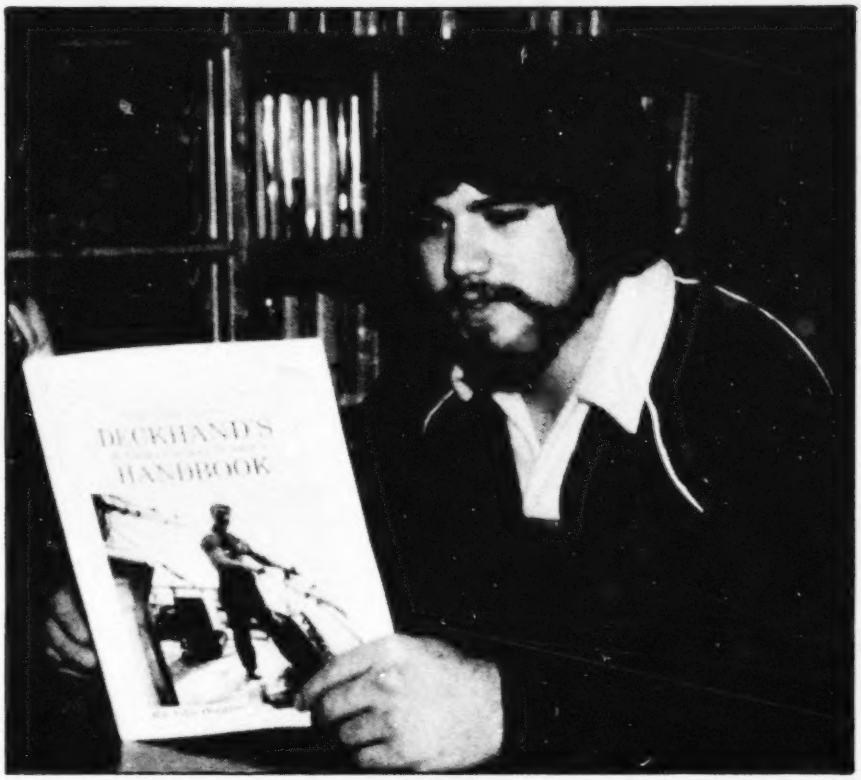
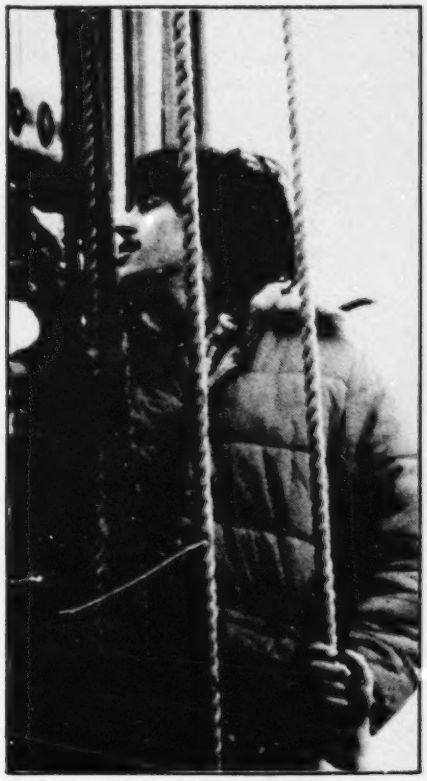


Improvement of basic reading, writing and mathematics skills is one of the primary goals of the FINS program. Here a student reads the textbook used in the junior year of study.



"At sea time" helps students learn the ropes.

English, Math, Science Revised for FINS

FINS is part of the regular high school program; it is not an alternative program.

High school English, science and mathematics courses are revised for practical application in the work experience of FINS.

Math is made applicable through course work in navigation techniques.

Science is applied through marine biology, instructing students how and where to fish. It also takes the form of environmental studies, teaching methods for improving sea harvests, while renewing and respecting natural resources.

Understanding and using maritime vocabulary becomes the key concept in English usage. Clear communication is the goal in composition. Studies in literature are comprised of classic and modern works associated with life at sea.

Vocational instruction in FINS includes marine engine repair, welding, electronics, boat building and work with fiberglass and plastics.

For the complete course of FINS studies see appendix.

Curriculum Units Developed

The development of the FINS curriculum has been an ongoing process. Curriculum units are being developed in all FINS subject areas. These units standardize the curriculum and enable new teachers to teach FINS subjects more readily.

Included in the curriculum units are: concepts to be learned, vocabulary and technical definitions, research assignments, extra reading ideas, student worksheets and testing ideas.

The FINS **"Basic Skills for Fishermen"** unit is completed and copies are available from the district office. Other units include: **Marine Biology for Fishermen, Marine Literature for Fisherman** and **High School Navigation.** Additional units are being developed. Among them is **"Small Business Management for Fishermen".**

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Goals and Objectives Define FINS Curriculum

Ten goals were adopted as the basis of the FINS curriculum. Specific instructional objectives were developed by the interdisciplinary team for each FINS course. FINS courses are divided into academic courses and *"sea time"* courses. The ten goals and the FINS courses are listed here. See Appendix page 12-13 for a complete list of objectives for each course.

1. The student develops a global understanding of man's relationship to the seas.
2. The student achieves the status of a highly qualified applicant for an entry level position in a marine related occupation.
3. The student masters the skills of writing and speech to assure effective job performance and for continued growth and advancement.
4. The student reads at a speed and comprehension adequate for effective job performance and for continued growth and advancement.
5. The student masters a technical vocabulary necessary to assure effective job performance and for continued growth and advancement.
6. The student develops accuracy in the computational skills necessary to mastering rudimentary navigation, business and personal management.
7. The student acquires study-reference skills to assure effective job performance and for continued growth and advancement.
8. The student acquires the essential survival skills to respond appropriately to protect himself and others in emergency and life threatening situations.
9. The student demonstrates work ethics which merit his/her favorable consideration for full time employment and subsequent advancement in a marine related field.
10. The student acquires a basic knowledge of marine ecology and biology and applies his knowledge to doing his part to preserve and enhance the marine environment as a renewable resource for man's vocation, recreation and survival.

When you are miles from medical help, first-aid and CPR are important.

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Academic Courses

Introduction to Fishing —

bottom and mid-water trawling, seining, trolling pots and longline, gillnetting, net construction and repair, business and accounting.

Navigation
Advanced navigation
Marine safety and survival
Marine engines and repair
Fisheries biology
Law of the sea
Progressive marine maintenance
Report writing
History of man and the sea
Seafood processing
Scuba
Personal money management
Business money management
Introduction to marine engineering
Sailing
Work ethics
Boat building
Drafting

FINS students learn the practical science of "hanging" net.

Sea Time Courses

Safety

Swimming competency
Man overboard
Life raft survival
Hypothermia prevention
First aid

Deck Seamanship

Line handling
Knots and splices
Shipboard vocabulary
Marine psychology
Ordinary Seaman's papers

Navigation

Rules of the road
Dead reckoning — plotting a course
Charts, tide tables, navigational aids
Radio, telephone communi cations
Electronic navigation equip ment

Gear and Techniques in Commercial Fishing

Working experience as a crew member on a fishing operation

"Hands on" experience aboard a modern gillnet vessel in LaConner.

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FINS has Five Phases

FINS is designed as a two-cycle instructional program, which generally is completed by students in their final two academic years of school.

However, completion of studies within two academic years is not mandatory.

Because it is designed to allow students to refine their basic and vocational skills at their own learning pace, students may complete the two-cycle program over an extended time period.

The total program process consists of five distinct phases:

— Recruitment
— Assessment
— Academic Cycle I
— Academic Cycle II
— Competency Certification

Recruitment

Recruitment of FINS students is an on-going process, but it is directed specifically at in-coming juniors who demonstrate a sincere interest in commercial fishing.

Recruitment is conducted in school through publicity campaigns, teacher referrals and by word of mouth among students.

At the end of the recruitment process, a list of FINS applicants is compiled by the FINS Coordinator.

Once functioning, the program itself serves as a recruiting tool.

Following one year of operation in the LaConner School District, the number of student applicants for the FINS program tripled.

Assessment

When recruitment is concluded, the FINS coordinator and school counselors begin to assess the eligibility of each applicant for the program.

In that process, all students are interviewed separately by the FINS coordinator and counselors.

In the interviews, staff attempt to determine the level of interest and degree of committment students show towards a career in commercial fishing.

At LaConner, some students enrolled in a college preparatory program have been turned down for the FINS program. Also, students who view FINS as a leisurely alternative to the regular academic program are routinely denied admission to the program.

Besides the interviews, students are also assessed in the areas of basic skills, aptitude and self-image. Those assessments are used as a placement tool for individualized instruction.

Because of the exciting, activity-oriented nature of FINS, students with only a minimal interest in commercial fishing frequently apply for admission into the program. As a consequence, as FINS becomes established in the school, the need for a selective admission process increases.

Academic Cycle I

In the first academic cycle, usually the junior year, FINS students are introduced to marine related skills through courses which complement the regular academic program.

Students meet their basic English requirement through literature and writing courses based on sea related language and reading experiences.

Mathematics requirements are met through navigation and course plotting, and science courses become classes in marine biology and oceanography.

The following represents a typical class schedule for a FINS I student —

1st semester	2nd semester
English	English (FINS)
Navigation I	Navigation II
Marine Education I	Marine Education II (FINS)
U.S. History	U.S. History II (Basic Curriculum)
Large Engines	Plastics (FINS Basic Curriculum)
Vocational Education	Elective (Basic Curriculum)

Complete course descriptions of Cycle I FINS classes are included in Appendix **page 12.**

The high school counselor is very important to the success of the FINS program.

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Academic Cycle II

In the second academic cycle, usually the senior year, students become further involved in the practical skills aspects of the FINS program.

Course work culminates with the *"at sea"* experience, which places students in the actual working marine environment. There practical application of basic seamanship skills is learned first hand.

The following represents a typical class schedule for a FINS II student.

1st semester	**2nd semester**
Contemporary World Problems	World Geography (Basic Curriculum)
English	English (FINS)
Work Experience	Work Experience (FINS "at sea")
Work Experience	Work Experience (FINS "at sea")
Large engines	Marine Biology (FINS)
Business Management	Business Management (FINS)

Complete course descriptions of Cycle II FINS classes are included in Appendix page 13.

Competency Certification

In the final assessment process, final examinations are used by basic curriculum instructors and FINS staff to measure students' competency of the marine related basic skills.

After completing those assessments, students' credentials are submitted to the FINS Advisory Board for final review.

Once approved by the board, students are eligible for graduation and professional competency certification.

A student relaxes aboard a modern trawl vessel.

The World of Work, and the FINS Graduate

Recent reports indicate that the worlds future food resources rest in the oceans. This increased emphasis on sea life will increase marine-related career opportunities. In the rich waters of the Pacific Northwest these opportunities will be especially plentiful.

Students completing the requirements necessary to receive a FINS competency certificate are qualified, entry-level participants, in a variety of marine fields.

Recent FINS graduates have entered the work force as U.S. Coastguardsmen, Tug boaters, marina attendants, and marine supplies and nets sale personnel. Not to mention commercial fishermen!

The program also serves as a valuable prep course for jobs in boatbuilding, marine mechanics and repair, hatchery management, marine education, fisheries enforcement and enhancement, marine salvage, oceanography and marine sales. The list of possibilities is endless and increased technology creates new possibilities all the time.

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Here's What Makes Our FINS Program a Success

by Bob Dow
FINS Instructor

Once the curriculum is established and the students selected, here's what holds the program together.

For a number of students at LaConner High School the thought of staying in school, for the twelve years necessary to graduate, was almost unbearable. To many of these students school just, ***"didn't teach anything worthwhile."*** These students, many with family problems, and juvenile records, were uncertain about their future. Graduation seemed far away, and college was out of the question. To the handful of students with a fishing background the ***"lure of the sea"*** was a real enticement to quit school.

It was to meet the needs of these students that the idea of FINS was spawned. Being an old, and well established marine center, LaConner was the logical place to begin a program for interested young people, that would prepare them for a career on the water.

Teaching students in the FINS program has given me an insight into the needs of a program designed to be unconventional, and to keep kids in school.

The first thing necessary is to keep instruction and materials relevant. Starting with topics the students are interested in, is a large step towards keeping the students in school.

A second important step is preparing the students for the "outside" world. This means talking about the practical issues of survival. This includes basic life skills, from tax forms and checkbooks, to how to get along with your crewmates.

The last component essential to a program like FINS is building a sense of belonging and pride. The students in the FINS program strongly identify with the program, and its goals. The comaraderie among the students provides an otherwise diverse population with a built-in peer support group.

This "esprit de corps" is of key importance in motivating students to finish their education. At LaConner High School this need to be identified has resulted in T-shirts, class activities and competition with other organized LaConner High School clubs. Besides the obvious benefit in the classroom, the program has helped a lot of students to feel that they are an important part of a larger organization.

Teaching the "reluctant learner" is not an easy task. The levels of frustration and stress that are experienced are immense, and rewards are few and far between. Too it is important that the teacher do everything possible to make their task easier. While there are no easy answers, I believe that programs like FINS, where the student chooses to be in school, provides the teacher with the incentive and leverage necessary to be successful.

Getting a first hand look at a variety of marine specimens.

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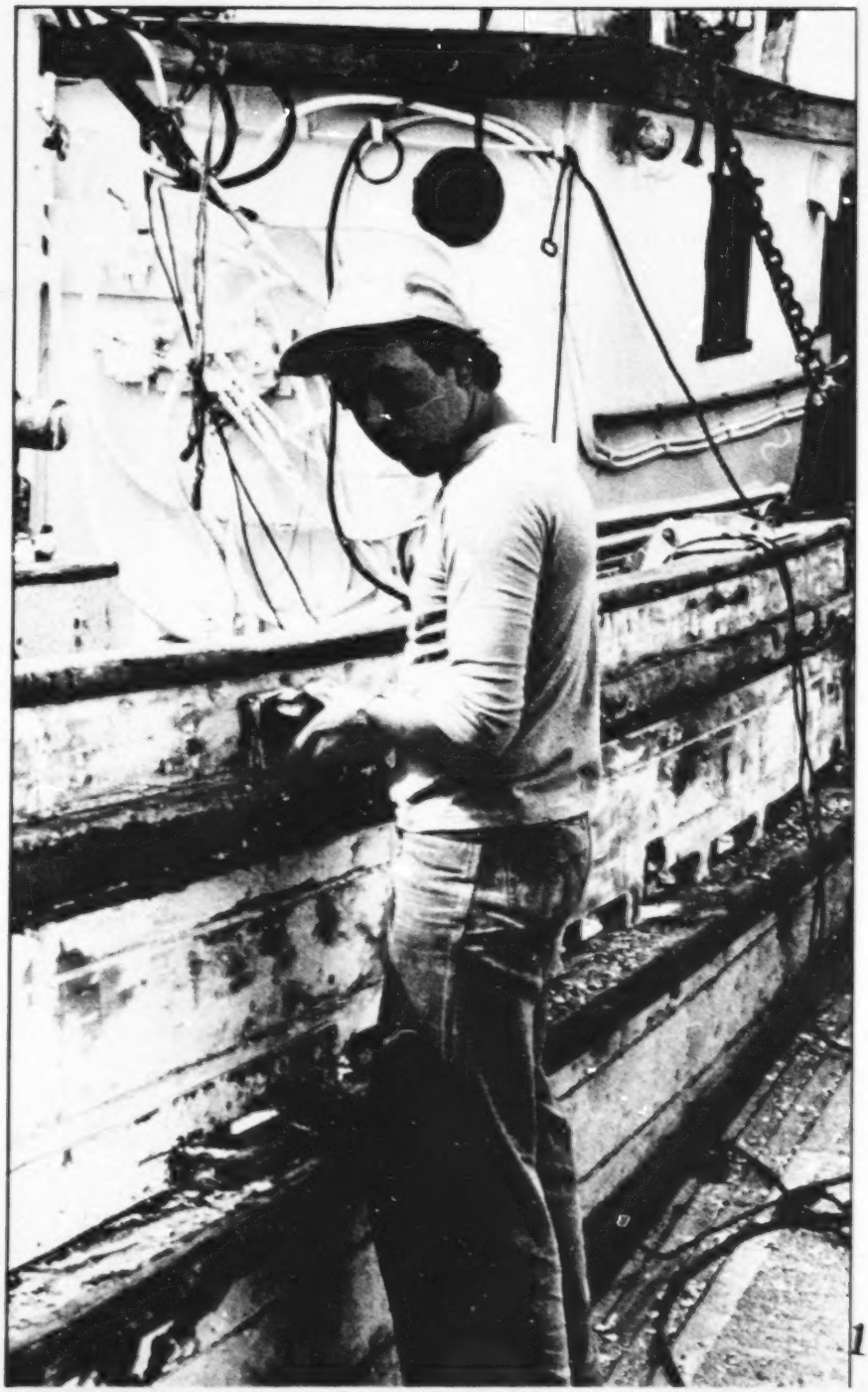
Students Earn Diploma and Certificate of Fisheries Competency

Since FINS was initiated in the district in 1979, 30 students have completed the program. Without FINS, it is fair to say that most of those students never would have finished school.

That is another important distinction of FINS.

FINS is more far-reaching than a conventional program. Students who successfully complete the work earn a certificate of competency for an entry level fisheries job. Their most significant achievement, however is graduation from a comprehensive, accredited high school, making them qualified to continue their education in preparation for professional and managerial careers.

Of those graduating from the FINS program, over half are now working in marine-related industries. Others are pursuing more advanced technological training at the community college and university level.



A future fisherman.

A recent graduate, now employed, helps ready his vessel for the upcoming salmon season.

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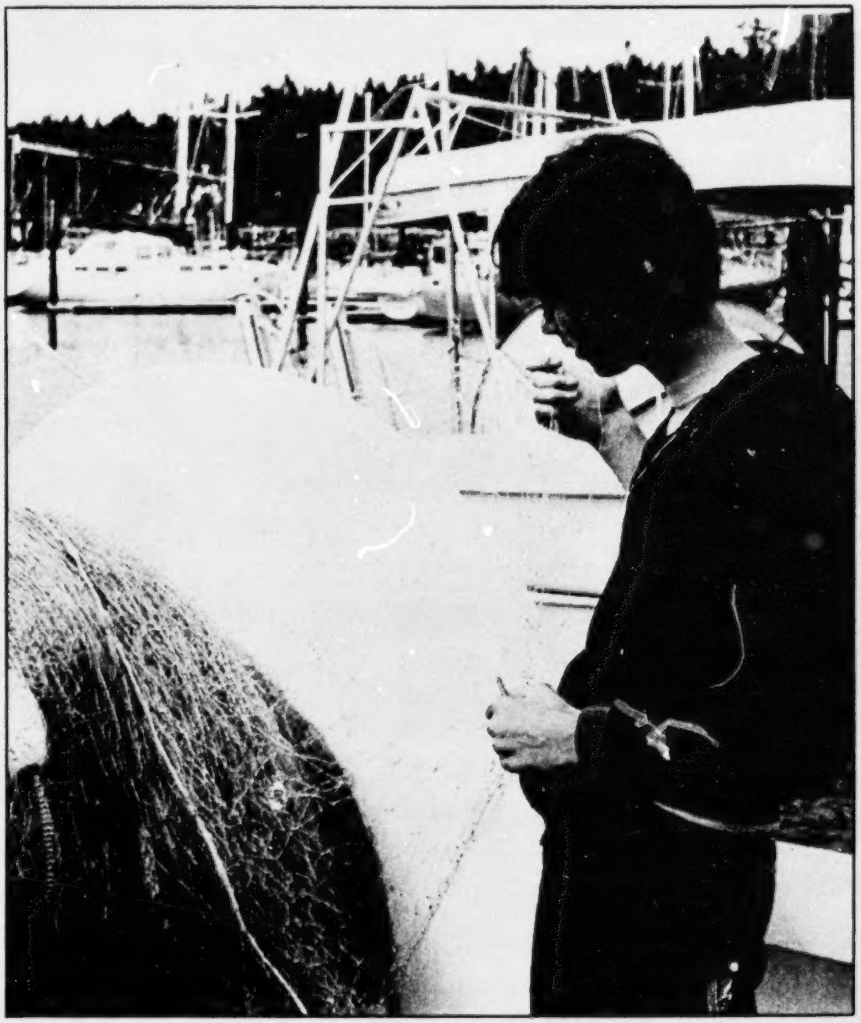
"On the docks," looking at a gillnet.



Beginning Your Own FINS Program

This handbook is designed to assist other districts in beginning their own FINS program.

Schools located in coastal communities, where fishing or the fish industry is a career possibility, may find it appropriate and convenient to adapt the FINS model to their precise needs.

At LaConner, FINS is taught and administered by existing personnel and incorporated as an adjunct to the regular secondary school curriculum.

Although it was originally designed for the commercial fishing industry of LaConner, the organizational model could also be easily applied as an alternative education system in conjunction with any major community industry, such as forest products, agriculture, aviation, etc.

For example, the other major industry in LaConner is agriculture. As a result of the recognized success of FINS, representatives of that industry have approached school officials to initiate a FINS-type model to train students for entry skills in agricultural related careers.

As a further aid in starting a FINS program, specific course materials are available to other schools at cost, through the LaConner School District.

By providing students with a realistic incentive to complete school; to master academic skills, and to apply them immediately in practical work experience, LaConner school officials believe FINS represents a relevant alternative for future educational programming.

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A 1981 graduate of the FINS program at the wheel of his first command, a 34' Alaska gillnet vessel.

FINS: A GRADUATE PROFILE

The FINS program is very proud of it's accomplishments over the past three years. The success of the program has been evidenced by the placement of its graduates in commercial fishing and other marine related careers. This number has steadily increased each year until 1981, when seven of twelve seniors joined the work force to put to use the skills they had learned in FINS.

At the present time, there are FINS graduates who own and operate their own commercial fishing boats both in Washington and Alaska. A number of others are working as crew members aboard gillnetters or purse seiners. Still others are working aboard fish buyers or in processing plants. Two students have joined the Coast Guard and have found that the skills they learned in FINS gave them the jump on many of their fellow recruits. Another graduate is working in a fisheries supply store where he sells, hangs, and mends commercial fishing nets. Finally, several students have gone to pursue a higher education.

Here are some of the comments these ex-students had to say about the FINS program:

"I think this school has taken a big step by offering the FINS program. I can truthfully say that I learned something worth learning."

Randy Rowland
gillnet crewmember and fish processor

"The FINS program teaches you different skills that you wouldn't learn in a regular classroom."

Dan Henning
salesman, commercial fishing supplies
net repair specialist

"There were a few classes in high school in which I learned something . . . they were all FINS classes."

Casey Coonc
self-employed Alaska gillnet fisherman

"The average (high school) class prepares a student for college, not the real world. The FINS program is the best high school program I have seen. It kept me in school and it gave me training to find a job."

Bruce Lusch
purse seine crewmember

"I think FINS is a real good class to take. It's something no other school teaches."

Cathi Edwards
gillnet crewmember

"In basic training my instructors couldn't believe that I already knew much of the information especially pertaining to navigation."

David Byrn
United States Coast Guard

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PROGRAM ELEMENTS - CYCLE I

COURSE TITLES:	BASIC SKILLS I (English)	NAVIGATION (Math)	MARINE EDUCATION (Science)	MARINE VOC-TECH ELECTIVES	BUSINESS MANAGEMENT	PRACTICUM
OBJECTIVES	Develop literacy skills and technical vocabulary * Develop practical knowledge background (2 semesters)	Theory and practice of dead reckoning navigation * Accuracy and speed in computational skills (2 semesters)	Identification of marine species * Basic concepts of marine biology * Ability to conduct scientific tests and experiments (2 semesters)	Practical knowledge of engines * Practical knowledge of electronics * Acquisition of job entry skills (elective)	Master the survival skills of personal economics as a wage earner and a consumer * Rudimentary bookkeeping (1 semester)	Mastering the the theory and practice of a variety of skills appropriate to a career in marine occupations through short courses (1 semester)
MAJOR CONTENT	Readings of journals, logs, narratives of the sea * Intensive writing practice * Vocabulary development exercises	Chart reading * Plotting courses * Rules of the road * Basic electronic navigation systems	Salmon cycle * Waves, currents and tides * Invertebrates * Adaptation of marine life to environment * Submarine geology	Vocational classes: marine engines, large engines, fiberglassing, electronics * Work experience through placement with an employer.	Wages and deductions * Checking accts. * Time payments * Budgets * Record keeping * Basic principles of economics	Knots and splices * First aid * Net mending * Law enforcement * Scuba * Fishing practices, etc.
EXPECTED OUTCOMES	Standardized language arts test and mastery of prescribed skills and concepts as verified by FINS developed tests.	Standardized mathematics tests and mastery of FINS developed criterion referenced tests.	Mastery of prescribed skills and concepts as verified by FINS developed tests.	Commercial tests - APL or ASD - or FINS developed criterion referenced tests.	Mastery of prescribed skills and concepts as verified by FINS developed tests.	Mastery of prescribed skills and concepts as verified by FINS developed tests.

PROGRAM ELEMENTS - CYCLE II

COURSE TITLES	BASIC SKILLS II (ENGL-LIT)	ADVANCED NAVIGATION (MATH)	ADVANCED MARINE EDUCATION (SCIENCE)	MARINE VOC-TECH ELECTIVES	BUSINESS MANAGEMENT	PRACTICUM ---- AT SEA TIME
OBJECTIVES:	Continued development literacy skills and technical vocabulary * Appreciation of literature of the sea	Advanced dead reckoning navigation * Rudiments of celestial navigation * Advanced computation skills	Understanding of life in the sea and the use and misuse of our oceans * Scientific aspects of mari-culture	Specialized competencies in choice of marine occupations * Technical work experiences	Develop an understanding and practice of fisheries as a business operation * Basic business practices	Mastering the theory and practice of a variety of skills appropriate to a career in marine occupations
MAJOR CONTENT:	Continuation of intensive writing and vocabulary development * Great literature of the sea	Piloting * Position determination * Advanced electronic navigation systems	Oceanography * Marine enhancement and replenishment practices * Environment	Elective vocational classes * Work experience with an employer	Purchasing * Operating expenses * Profit and loss * Depreciation * Taxes * Marketing	First Aid at Sea * Galley Cook * Applying for a job * Underwater photography * Advanced fishing practices
EXPECTED OUTCOMES:	Standardized language arts test and mastery of prescribed skills and concepts as verified by FINS developed "sea-knowledge" test.	Standardized mathematics test and mastery of prescribed skills and concepts as verified by FINS developed tests.	Mastery of prescribed skills and concepts as verified by FINS developed tests.	Commercial tests - APL or ASD - and FINS developed tests.	Mastery of prescribed skills and concepts as verified by FINS developed tests.	Mastery of prescribed skills and concepts as verified by FINS developed tests.

After completing a course of studies in Fishery Industries Specialization the student will be competent in the following areas:

NAVIGATION

Student is able to:

_____ properly use the following navigational publications:

* Light list
* Hansen's Handbook
* Coast Pilot
* Tide and Current tables
* U. S Chart No. 1

_____ read and interpret the data contained on nautical charts

_____ use the parallel rule

_____ use the horizontal sextant

_____ use the three arm protractor

_____ solve time, speed and distance problems using the nautical slide rule

_____ use a divider to measure distance

_____ use the formula TVMDC to convert true to magnetic courses

_____ plot a dead reckoning DR track

_____ identify the use of various electronic equipment such as loran, radar, sonar, fathometer, etc.

MARINE EDUCATION

Student is able to:

_____ identify the stages in the life cycle of the Pacific salmon according to:

* name of fish at teach stage physiology and anatomy differences at each stage

* reproduction and heredity characteristics of salmon

_____ define terms associated with the salmon cycle

_____ list the causes and effects of waves, currents and tides

_____ define terms associated with waves, currents and tides

_____ read and interpret all information on a tide table

_____ identify, describe and define plankton and its role in supporting other marine life

_____ match phylums of marine life with the basic characteristics of each group (anatomical and physiological) with 3 examples from each group

_____ identify the normal (natural) components of fresh and salt water systems as well as manmade components (pollutants)

_____ measure quantities of natural and unnatural components using test kits.

BASIC SKILLS

Student is able to:

_____ identify the five species of Pacific salmon and other common sea life

_____ identify the commercial fishing gear types common to the Pacific Coast waters

_____ react appropriately to emergency and survival situations

_____ use the proper terminology in referring to the parts of a boat or ship

_____ identify the problems and conditions associated with different fisheries of the North Pacific

_____ write a proper business letter

_____ present himself clearly and concisely in both written and oral form

BUSINESS MANAGEMENT

Student is able to:

_____ add, subtract, multiply and divide any number up to four digits.

_____ solve problems using percents and fractions.

_____ keep records of personal income, savings and expenditures.

_____ prepare a personal budget

_____ read a payroll statement and/or fishing settlement

_____ manage a personal or business bank checking account

_____ properly complete different types of application forms

_____ use and interpret different charts, graphs, pictures

_____ use a calculator to assist with math problems

PRACTICUM

Student is able to:

_____ tie basic marine knots

_____ administer basic first aid

_____ prepare a variety of seafood dishes

_____ put on a survival suit under various conditions

_____ demonstrate beginning web mending, patching and hanging

ELECTRONICS

Student is able to:

_____ use a volt - ohm - milliometer to measure voltage, current and resistance in an electrical circuit

_____ be familiar with Ohms Law and the relationship between voltage, current and resistance in an electrical circuit

_____ differentiate between a linear and a digital circuit

_____ be familiar with the basic digital gates: that is, a Nand, And, Nor, Or, and an invertor.

_____ operate and use an oscilloscope in trouble shooting

LARGE ENGINES

Student is able to:

_____ replace and adjust the 4 cycle ignition points and condenser on a gasoline engine

_____ set the timing on a gasoline 4 cycle engine

_____ adjust hydraulic valve lifters

_____ adjust the carburetor on a gasline engine

_____ test and replace the ignition coil on a gasoline engine

MARINE ENGINES

Student is able to:

_____ adjust the carburetor on an outboard engine

_____ replace the propeller on an outboard engine

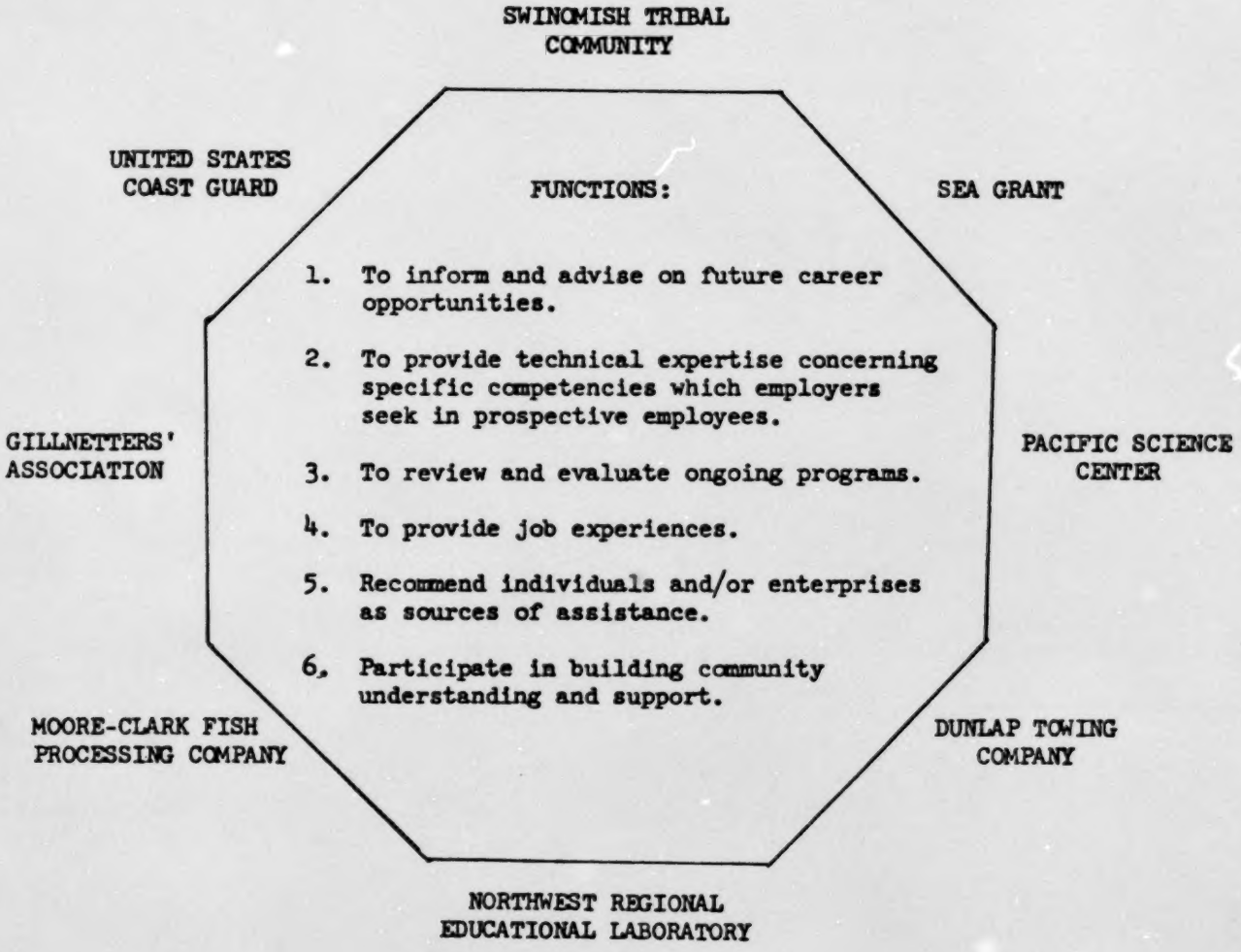
_____ test the ignition coil on an outboard engine ignition system

_____ test the condenser on an outboard engine ignition system

_____ replace and adjust the ignition coils on an outboard engine ignition system

THE ADVISORY BOARD MAKES THE DIFFERENCE

FINS ADVISORY BOARD
1980-81


SWINOMISH TRIBAL COMMUNITY
UNITED STATES COAST GUARD
SEA GRANT
FUNCTIONS:
1. To inform and advise on future career opportunities.
2. To provide technical expertise concerning specific competencies which employers seek in prospective employees.
3. To review and evaluate ongoing programs.
4. To provide job experiences.
5. Recommend individuals and/or enterprises as sources of assistance.
6. Participate in building community understanding and support.
GILLNETTERS' ASSOCIATION
PACIFIC SCIENCE CENTER
MOORE-CLARK FISH PROCESSING COMPANY
DUNLAP TOWING COMPANY
NORTHWEST REGIONAL EDUCATIONAL LABORATORY

FINS developers:
Dr. Paul J. Avery — Project Developer
Ralph Dalseg — Marine Biology Specialist
Bob Dow — Commercial Fisheries Specialist
Delores Mjolsnes — Reading Specialist
Glenn Springer — Career Education Specialist

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